

SUBSECTION 8.2

Biological Resources

8.2 Biological Resources

8.2.1 Introduction

This section describes the laws and regulations that apply to biological protection, the setting and conditions of the affected site, the methods that were used to evaluate the potential presence of threatened and endangered species, and the potential adverse impacts that could occur to biological resources as a result of project implementation. It also discusses the feasibility of potential mitigation measures that would avoid, minimize, or compensate for adverse impacts.

8.2.2 Applicable Laws, Ordinances, Regulations, and Standards (LORS)

The following section and Table 8.2-1 (due to size, all tables are located at the end of this section) describe the primary laws and regulations that apply to potential impacts to biological resources in the project area, and the agencies responsible for enforcing regulations.

8.2.2.1 Federal

8.2.2.1.1 Federal Endangered Species Act (FESA, 16 USC 153 et seq.)

Applicants for projects that could result in adverse impacts on any federally listed species are required to consult with and mitigate potential impacts in consultation with the U.S. Fish and Wildlife Service (USFWS). Adverse impacts are defined as “take,” which is prohibited except through authorization of a Section 7 or Section 10 consultation and Incidental Take Authorization. “Take” under federal definition includes “such act as may include significant habitat modification or degradation” (50 CFR §17.3). Species that are candidates for listing are not protected by FESA. However, USFWS advises that a candidate species could be elevated to listed status at any time, and therefore applicants should regard these species with special consideration.

Migratory Bird Treaty Act (16 USC 703 to 711) protects all migratory birds, including nests and eggs.

Bald and Golden Eagle Protection Act (16 USC 668) specifically protects bald and golden eagles from harm or trade in parts of these species.

8.2.2.2 State

California Endangered Species Act (Fish and Game Code Section 2050 et seq.). Species listed under this act cannot be “taken” or harmed, except under specific permit. At present, “take” means to hunt, pursue, catch, capture, or kill or to attempt to do so.

Fish and Game Code Section 3511 describes bird species, primarily raptors, which are “fully protected.” Fully protected birds may not be taken or possessed except under specific permit requirements.

Fish and Game Code Section 3503.5 protects all birds-of-prey and their eggs and nests.

Fish and Game Code Section 3513 makes it unlawful to take, possess, or destroy any birds-of-prey or to take, possess, or destroy the nest or eggs of any such bird.

Fish and Game Code Section 4700, 5050, and 5515 list species that are fully protected in California.

Fish and Game Code Sections 1900 et seq.: Native Plant Protection Act lists threatened, endangered, and rare plants listed by the state.

Title 14, California Code of Regulations, Sections 670.2 and 670.5 list animals designated as threatened or endangered in California. California Species of Special Concern (CSC) is a category conferred by the California Department of Fish and Game (CDFG) for those species that are indicators of regional habitat changes, or are considered potential future protected species. CSC species do not have any special legal status, but are intended by CDFG for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

California Fish and Game Code (Sections 1601 through 1607) prohibits alteration of any stream, including intermittent and seasonal channels and many artificial channels, without a permit from CDFG. The limit of CDFG jurisdiction is subject to the judgment of the department, up to the 100-year flood level. This applies to any channel modifications that would be required to meet drainage, transportation, or flood control objectives of the project.

California Environmental Quality Act (Public Resources Code Section 15380) defines “rare” in a broader sense than the definitions of threatened, endangered, or species of special concern. Under this definition, CDFG can request additional consideration of species not otherwise protected.

California Environmental Quality Act (CEQA) requires that the effects of a project on environmental resources must be analyzed and assessed using criteria determined by the lead agency.

Warren Alquist Act is a CEQA-equivalent process implemented by the California Energy Commission (CEC). Preparation of this application will result in an assessment prepared by the CEC staff to fulfill the requirements of CEQA.

8.2.2.3 Local

8.2.2.3.1 Applicable Habitat Conservation Plans

The project is within the broad area addressed by the Recovery Plan for Upland Species of the San Joaquin Valley (USFWS, 1998). This plan was developed using the San Joaquin kit fox as an “umbrella species” and has the goal of preserving habitat for 11 threatened and endangered species in the Central Valley. No critical habitats or recovery areas are defined in the Recovery plan that overlap with project areas. The Mendota Wildlife Management Area is a large natural preserve of emergent wetlands located approximately 8 miles northwest of the project. However, this area is not crossed by any project linears, and is predominantly upwind of the project site.

8.2.2.3.2 Fresno County General Plan

The Conservation Element of the County General Plan (Fresno, 2000) contains specific objectives to preserve water quality (see Section 8.14), and soils (see Section 8.9) that have benefits to biological resources. It also contains specific policies and goals for preserving marsh and riparian areas, vernal pools and ephemeral wetlands, urban streams, trees, rare and endangered species, fisheries and for promoting resource conservation areas. Conservation policies applicable to the project are summarized in Table 8.2-2.

8.2.2.3.3 City of San Joaquin General Plan

The General Plan states “there are no rare or endangered species of plants or animals within the existing and planned boundaries of the San Joaquin planning area” (City of San Joaquin, 1996). The General Conservation and Open Space Goals, therefore, focus on “cooperating with all levels

of government in an attempt to conserve, develop, and utilize natural resources.” There are no specific policies for preservation of biotic resources within the City planning area.

8.2.3 Setting

The following sections describe the biological conditions in the project area, beginning with the vegetation types and habitat present in the project area (see Figure 8.2-1), a description of wildlife typical to the area, and a discussion of specific special-status species known to occur in the general region. Specific conditions of the project setting that would support these resources are discussed subsequently in the “Environmental Consequences” section.

8.2.3.1 Location

The project site is in the central portion of Fresno County, in the heart of the San Joaquin Valley. The project site is at 170 feet elevation, near the middle of a broad, open valley dominated by cotton fields. The foothills that rise to the Sierra Nevada are 40 miles east of the project. The Monocline Ridge and Ciervo Summit portions of the Coast Range are 25 miles to the west. The region’s climate is arid, characterized by very hot, dry summers and moderate, wet winters. Summer temperatures frequently exceed 100 degrees Fahrenheit (°F); winter temperatures are generally mild, with fewer than 10 freezing days per year. Rainfall averages 10 inches per year, most of which falls between November and March. The water supply line, gas pipeline, and electrical transmission line are in the same region and habitat conditions.

The new 24-inch gas pipeline begins at a new metering station on Manning Avenue, approximately 3 miles east of I-5, and crosses 20 miles of intensive agriculture. Along the way, it crosses under the California Aqueduct, numerous irrigation ditches, and Fresno Slough. The water supply line starts in the recharge fields of the Fresno-Clovis WWTP, 20 miles east of the project, and similarly runs adjacent to rural roads through 20 miles of intensive agriculture. The water line crosses under the James Bypass and many irrigation ditches.

8.2.3.2 Habitat

Habitat types potentially affected in the project area comprise agricultural, saltbush scrub, irrigation ditches, riparian shrub, and landscape and urban communities.

8.2.3.2.1 Agricultural

Agricultural uses dominate both the project site and habitat along linear corridors. Habitat on the project site is intensively farmed for cotton. Surrounding areas and most of the linear corridors are miles of uniform fields of cotton, tomatoes, sorghum, alfalfa, or melons. There are also smaller areas of grapes and orchards. Farming is intensive, resulting in the removal of all native vegetation, and farm fields are plowed or graded up to the edge of rural roads and highways. Irrigation ditches are generally shallow, temporary structures formed by a tractor-mounted plow and rarely support any vegetation.

Vegetation species present are almost exclusively agricultural crop, maintained in a weed-free state.

The wildlife species that commonly use cotton, alfalfa, tomato and melon fields are generally wide-ranging species that are highly adaptable. American crows, ravens, Brewers, and red-wing blackbirds are common. Large soaring raptors such as red tail hawks and occasionally Swainson’s hawks forage in alfalfa fields. California hare, coyote, and striped skunks are also relatively common. Mallard ducks, American coot and pied-billed grebes use tailwater ponds and slow-moving irrigation ditches. This habitat type is regionally abundant and the species that occur there are generally widely distributed and common.

8.2.3.2.2 Saltbush Scrub

Saltbush scrub was formerly the dominant habitat throughout the San Joaquin Valley. In the affected project area, saltbush scrub habitat occurs only in small patches along the James Bypass. The habitat is characterized by sparse saltbush (*Atriplex spp.*) shrubs, generally to a height of less than one meter. Historically, the area between individual shrubs was probably bare earth, or sparsely vegetated with native herbaceous species. Introduced brome grasses from the Mediterranean region, however, have invaded this habitat, and the spaces between saltbush shrubs are now dominated by a homogeneous cover of short but dense grass. The grass germinates early in the season, drawing up available soil moisture and nutrients before native species can grow. The dry grass will root and stabilize sandy soils, making them less suitable for species such as horned lizards and kangaroo rats that use sandy soils.

A greater variety of wildlife species use saltbush scrub habitat than the intensive agricultural lands, and tend to be more native species. Savannah sparrows, lark sparrows, and lazuli bunting are typical, though seasonal visitors. California hare, coyote and striped skunk are common, and there are abundant small rodent burrows likely to support pocket mice, kangaroo rats, deer mice, and woodrats. Blunt-nosed leopard lizards, western fence lizards, and side-blotched lizards are likely to occur also.

8.2.3.2.3 Irrigation Ditches

The single most significant factor in converting the arid San Joaquin Valley for intensive agriculture was the implementation of widespread irrigation, in approximately 1973. As a result, the project site and all the linear features are crossed, bordered or paralleled by irrigation ditches. These ditches both supply water to fields, and drain tailwater back to detention basins or to the canals and sloughs that lead to the Mendota Wildlife Management Area, and from there, the San Joaquin River. Irrigation ditches vary in size—from the 100-foot-wide California Aqueduct to 3-foot-wide ditches cut by the farmer's plow. The ditches are generally kept clear of aquatic and riparian vegetation, and rarely support fishes because they are seasonally dry. Tailwater ditches accumulate sediment and tend to be larger and broader, often supporting small areas of cattails. A large area north of the proposed water line on Manning Avenue (near Calaveras Avenue) once supported a broad expanse of dense cattails, but has been allowed to dry as part of the termination of drainages by the Bureau of Reclamation. A large stand of dried and dead cattails is still present. The larger ditches may be concrete lined. James Bypass and Fresno Slough have adjacent overflow areas where grassy vegetation, low shrubs, and even some riparian mesquite are allowed to grow.

Wildlife that use the irrigation ditches include great blue herons, American egret, and black-crowned night herons. Mallard ducks may visit ditches that have some remaining cover, and red winged blackbirds are attracted to the patches of cattails in the tail water ditches. In several areas irrigation ditches start or end in small surface impoundments (farm ponds) that often support a small patch of dense cattails, deeper water and even fishes.

Some of the irrigation ditches (Fresno Slough and James Bypass) could be considered jurisdictional wetlands, but, in general, they are excavated in upland soils (lack hydric characteristics), lack vegetation (no hydrophytic vegetation), and are maintained solely by manmade water supplies (i.e., no natural hydrology). Most of the irrigation ditches would not qualify as jurisdictional wetlands.

8.2.3.2.4 Riparian Communities

The California Aqueduct is exceptional among irrigation ditches in that it is bordered for its entire length on both sides by a dense (but narrow) strip of tall mesquite and willow trees. This vegetation grows along the toe of the aqueduct, adjacent to the berm forming the outer walls of

the canal. Similar vegetation springs up in discontinuous patches along parts of the James Bypass, on the proposed water line route.

The strip of mesquite-willow forest supports a lush variety of fauna, including loggerhead shrikes, mockingbirds, western kingbirds, American kestrel and seasonally northern orioles, orange grosbeak, and many small migratory sparrows and warblers. The dense cover is attractive for California hare, desert cottontail, and possibly dusky-footed woodrats. The sloping bare-earth berm behind the mesquite thicket is attractive burrowing habitat for California ground squirrel, the burrows then being used by burrowing owls (although only one dead burrowing owl was observed during field surveys).

Although attractive for many species, mesquite-willow forest occurs in only two places crossed by the project linears and is quite rare. No such habitat is located within a mile of the project site.

8.2.3.2.5 Landscape and Urban Communities

North of the project lies the City of San Joaquin, supporting hundreds of residences and commercial and urban uses. Houses, streets, and parking lots tend to be planted with California pepper trees, mesquite, bougainvillea, juniper, and garden plants such as palms, geraniums, and other ornamental species. Most of the land surface is covered with concrete, asphalt, housing, buildings, or packed earth. The availability of water, shady cover, and insects makes the yards and landscaping around urban areas attractive to certain adaptable species, but these tend not to include many natives.

Dominant wildlife in these areas tends to be house sparrows, European starling, Brewer's blackbird, brown-headed cowbird, American crow, rock dove, and house finches. There are many domestic or feral cats and dogs, house mice, Norway rats, and California ground squirrels. The species tend to be those that are highly adaptable, widespread, and common. Landscape and urban habitats dominate the area north of the project site and the eastern half of the proposed water pipeline alignment.

8.2.3.3 Special-Status Species

Special-status plant and animal species evaluated here were determined from the California Natural Diversity Data Base (CNDDB) (Appendix 8.2A), consultations with agency personnel (Appendix 8.2B), and field surveys. Special-status species that are recorded or that could potentially occur in the project area are listed in Table 8.2-3; locations of sensitive biological species are shown on Figures 8.2-2a and 8.2-2b. CH2M HILL biologists performed preliminary surveys of the project site and some alternative linear routes on December 28, 2000, and May 24, July 26, and August 9, 2001. The qualifications of field surveyors are provided in Appendix 8.2C.

Data from the preliminary surveys and habitat evaluations were used to guide the placement of subsequent linear project features away from potentially sensitive areas. To the extent feasible, linears were sited to avoid potential seasonal wetlands, riparian areas or areas of natural habitat. These were supplemented by evaluating habitats on aerial photographs at a scale of 1: 6,000. Data on these maps and field observations were used to plan the gas pipeline for locations that would have less potential to adversely affect special-status species. Potential impacts to species along the pipelines are generally temporary, and largely avoidable. Therefore the description of these species is abbreviated here, and mitigation is focused on avoiding the types of habitat that support these species (e.g., ephemeral wetlands and natural habitat).

8.2.3.3.1 Special-Status Plants

The CNDDB lists seven special-status plants species that are recorded to occur in the general site vicinity. Of these, none is expected to occur on the project site or on most of the water and gas

lines. Heartscale, brittlescale, saltscale, palmate-bracted bird's-beak, recurved larkspur, Munz' tidy-tips, and San Joaquin woollythreads are all typical of the chenopod scrub and alkaline flats that formerly dominated the landscape of the San Joaquin Valley. Unfortunately, with the exception of small outcrops and a sizable area west of I-5, this habitat has been entirely replaced by intensive row crops and irrigated agriculture. The habitat modification, weed control and irrigation have forced these species to marginal areas, including outside of the project area. For those species that once were recorded along Manning Avenue or in the vicinity of project features, the most recent recorded notation is generally that the area has been converted and no longer supports the species.

8.2.3.3.2 Special-Status Animals

Twelve special-status animals listed in the CNDDDB were recorded for the general project vicinity. Of these, none is expected to occur on the project site or on most of the project linears because intensive agriculture has converted most habitat. The giant garter snake (GGS) is known to occur in Fresno Slough, which would be crossed by the project gas line. Burrowing owls, California horned lark, and mountain plover would be expected to forage over the agricultural fields in the project area, but maintenance for intensive agriculture makes the habitat marginally suitable for nesting (burrowing owls). Small rodents such as Fresno or giant kangaroo rats, San Joaquin antelope squirrels, San Joaquin kit foxes, blunt-nosed leopard lizards, California horned lizards, and the two beetles listed in Table 8.2-3 probably occur only west of I-5, where undisturbed habitat exists.

There is a record of GGS from Fresno Slough, 1 mile West of Burrell, which is about 8 miles south of the proposed water line along Manning Avenue. GGS require dense cattail or bulrush vegetation and are highly aquatic. The portion of Fresno Slough crossed by the pipeline is unlikely to support this species, because it lacks permanent water and dense aquatic vegetation.

Swainson's hawks were observed foraging over alfalfa fields north of Manning Avenue, but there were no records of nests in the CNDDDB, and the habitat is generally unsuitable. Historically, the salt scrub habitat would have been too dry to support this species.

San Joaquin kit fox probably occurred throughout the region in its historical habitat, but intensive agriculture has removed most potential den sites, cover, and natural prey. The species was recorded from a site southwest of Raisin City (approximately 13 miles southeast of project site), but like many of the special-status species records from 1972 to 1975, records indicate presence prior to widespread irrigation and intensive cultivation.

Prior to 1970, western Fresno County was dominated by grass and mature salt scrub habitat. With completion on the San Luis Canal/California Aqueduct in 1970 and the San Luis Basin in 1973, large areas became suitable for irrigated agriculture (USBR, 1979). CNDDDB records indicate between 1972 and 1974 many areas were converted from native habitat to agriculture.

Burrowing owls are a species of concern to both USFWS and CDFG. While they occur from Canada to South America, their habitat in California and western states is being reduced by land conversion for urban and agricultural uses. Most burrowing owls in this region are migratory, spending winters in Southern California or Mexico, and appearing in the San Joaquin Valley to breed in summer. Burrowing owls occupy and nest in abandoned ground squirrel burrows, particularly along the relatively barren area along railroad tracks and road cuts. There is a known nest record from near the Panoche Junction metering station, and the species could potentially survive anywhere along the linears where burrows are present. Burrows, created by ground squirrels, are nearly absent from agricultural areas, due to pest control. Burrowing owls would be likely around the California Aqueduct, Fresno Slough, and James Bypass areas where some habitat remains. Burrowing owls tend to use the same burrows from year to year, such that

the presence of burrowing owls usually indicates they will be back in following years. None was seen on or adjacent to the project site, but young owls could colonize suitable squirrel burrows.

8.2.3.4 Biological Surveys

Biological surveys for the general project area were performed by biologists from CH2M HILL on December 20, 2000; and May 24, July 27, and August 9, 2001 (Debra Crowe, Rick Crowe, Victor Leighton, and E.J. Koford; qualifications of field surveyors are provided in Appendix 8.2C). The habitat was quite homogeneous, and therefore most effort was spent evaluating those locations where wetlands or natural habitats were present. The field surveys, in conjunction with aerial photographs, were sufficient to determine the types of habitat present and the suitability for supporting special-status species on the project site and general vicinity.

8.2.4 Environmental Consequences

Potential impacts to biological resources were evaluated to determine permanent and temporary effects of project construction, operation, maintenance, and decommissioning of the CVEC project and supporting facilities.

A summary of potential impacts is presented in Table 8.2-4.

8.2.4.1 Standards of Significance

Impacts on biological resources are considered significant if one or more of the following conditions could result from implementation of the proposed project:

- Substantial effect, reduction in numbers, restricted range, or loss of habitat for a population of a state or federally listed threatened or endangered species;
- Substantial effect, reduction in numbers, restricted range, or loss of habitat for a population of special-status species, including fully protected, candidate proposed for listing, CSC, and certain CNPS list designation;
- Substantial interference with the movement of any resident or migratory fish or wildlife species;
- Substantially diminish or reduce habitat for native fish, wildlife, or plants; or
- Substantial disturbance of wetlands, marshes, riparian woodlands, and other wildlife habitat;
- Removal of trees designated as heritage or significant under County or local ordinances.

8.2.4.2 Project-Specific Impacts

8.2.4.2.1 Potential Impacts of Construction and Operation of Project Site

Potential Impacts to Special-Status Species

Construction of the project site would remove up to 85 acres of land intensively farmed in cotton. This land is seasonally available for foraging birds and small mammals. The quality of the land as wildlife habitat is marginal. The parcel has been designated for industrial development by the City of San Joaquin. The parcel is planned to be developed and likely to be paved, with or without the project. The site supports no special-status species. Although there is no evidence that San Joaquin kit fox occur on or near the project site, the USFWS considers all agricultural habitat in the San Joaquin Valley to be potential habitat, the loss of which, although not significant, is still requested to be replaced by USFWS. The Applicant will, therefore seek a Section 7 consultation with the USFWS, to document the potential

“take” of endangered species habitat and to provide mitigation for San Joaquin kit fox. Initial consultations with the USFWS suggest that acquiring and managing similar habitat in the region, at a ratio of 1:1 may be a sufficient mitigation to compensate for potential project impacts.

1. Water will be applied to the site for dust control during construction. Erosion and sediment washed into surface waters would be potentially harmful to water quality of adjacent drainage canals and species that occupy them. The Applicant would be required to have a Stormwater Pollution Prevention Plan (SWPPP) as part of compliance with a construction NPDES permit. The permit specifies BMPs to avoid sediment runoff and erosion that would cause water quality degradation. Therefore, this impact will be less-than-significant.

Potential Impacts to Wetlands

1. No jurisdictional wetlands are present on the project site. The site is bordered to the south by a man-made irrigation canal that is not jurisdictional. The project would not cause loss or fill of any wetlands.
2. Operation of the stormwater detention basin west of the proposed project site would potentially form some wetland-type vegetation in an area that is presently cotton. The stormwater detention pond is intended to capture water from the paved area of the project site and store it temporarily, releasing it at a slow rate to percolate into the ground. This would create a potential wetland area where none exists, a potentially beneficial effect.
3. There would be no cooling water discharge from the CVEC and therefore no adverse impact to wetlands and water quality from this source.
4. Construction of the project would potentially result in temporary increases in sedimentation to drainage canals, with consequent adverse impacts to aquatic and amphibian species that use these canals. These impacts would be temporary and would be expected to ameliorate over time. The potential adverse impacts would be minimized by obtaining and complying with an NPDES stormwater construction discharge permit. The permit specifies measures to be implemented at the site to avoid, minimize or compensate for potential adverse impacts to water quality. With implementation and compliance with the NPDES stormwater permit, potential impacts to aquatic habitat downstream of the project would be less-than-significant.

Potential Impacts of Cooling Tower Drift

1. Cooling tower drift is the fine mist of water droplets that escape the cooling tower's mist eliminators and is emitted into the atmosphere. Cooling towers concentrate the particulates (total dissolved solids) during the cooling process and produces a salt mist. Salts can physically damage leaf cells, which affects the photosynthetic ability of the plant. Other effects include blocking the stomata (leaf pores) so that normal gas exchange is impaired, as well as affecting leaf adsorption and solar radiation reflectance. These effects can cause reduced productivity in crops, forest trees, and sensitive special-status plant species within a deposition area.

Studies performed by Lerman and Darley (1975) concluded that particulate deposition rates of 365 grams per square meter per year ($\text{g}/\text{m}^2/\text{year}$) caused damage to fir trees, but rates of 274 $\text{g}/\text{m}^2/\text{year}$ and 400 to 600 $\text{g}/\text{m}^2/\text{year}$ did not cause damage to vegetation at other sites. Pahwa and Shipley (1979) exposed vegetation (corn, tobacco, and soybeans) to varying salt deposition rates to simulate drift from cooling towers that use saltwater (20 to 25 parts per thousand) in the circulation water. Salt stress symptoms on the most sensitive crop plants (soybeans) were barely perceptible effects at a deposition rate of 2.98 $\text{g}/\text{m}^2/\text{year}$ (Pawha and Shipley, 1979).

Assuming a particulate deposition rate of 2 centimeters per second and a maximum salt concentration of 0.7633 micrograms per cubic meter (the cooling tower particulate matter deposition rate), the expected deposition rate is 0.48 g/m²/year, which is significantly less than levels expected to cause barely perceptible to the most sensitive crop plants.

Impacts to Trees

There are no trees on the project site or adjacent to it. There would be no adverse impact to native or heritage trees from the proposed project.

Potential for Collision and Electrocution Hazard to Birds

The project would construct two exhaust stacks as high as 145 feet that could potentially result in bird collisions. Most bird collisions recorded in the literature involve nocturnal migrants flying at night in inclement weather and low-visibility conditions, colliding with tall guyed television or radio transmission towers (CEC, 1995; Kerlinger, 2000 in *Final Staff Assessment for Contra Costa Power Plant*). Migratory birds generally fly at an altitude that would avoid ground structures, except when crossing over topographic features such as ridge tops, or when inclement weather forces them down closer to the ground. The project area is not known to be a path for nocturnally migrating birds. There are no topographic or ecological features that would attract birds to this location or “funnel” them into the vicinity of exhaust stacks or other elevated features of the project. Because of the relatively low structure height and lack of guy wires, the potential for bird collisions with stacks, structures and towers of the project is considered less-than-significant.

Bird collision with new electric transmission lines and towers are similarly expected to be rare because of the relatively low height of the poles (approximately 110 feet) and the location away from migratory pathways, ridgetops and concentrations of waterfowl. The potential for collision is considered less-than-significant.

Large raptors can be electrocuted by transmission lines when a bird simultaneously contacts two conductors of different phases, or a conductor and a ground. All electrical transmission lines for the present project are constructed with sufficient clearance between conductors and ground to protect large birds from electrocution. Installation of transmission lines and towers according to “raptor-proof” guidelines (*Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996*, APLIC, 1996) would reduce potential impacts to less-than-significant.

8.2.4.2.2 Impacts of Gas Line Construction and Operation

Potential Impacts to Special-Status Species

1. Construction of the natural gas pipeline would pass through or near potential habitat for several special-status species. Potential impacts to these species are minimized by routing the pipeline to the greatest extent practical within roadways, railroad berms, and under rivers and sensitive marsh or aquatic habitat. Burrowing owls could be present in the berms along the California Aqueduct and Fresno Slough. Implementation of environmental awareness training, preconstruction surveys, and seasonal avoidance would reduce impacts to nesting birds to less-than-significant.
2. The construction laydown areas would be adjacent to the proposed construction area. Impacts to this area would consist of temporary vegetation clearing, compaction and dust generation. However, the site would be restored to preconstruction conditions after construction and therefore would sustain no long-term adverse impacts. With the exception of the California Aqueduct and Fresno Slough, there are no significant habitats present that would be adversely affected by temporary use. These sensitive areas would be avoided for laydown use. The impacts from construction would be temporary and less-than-significant.

Potential Impacts to Wetlands

1. The gas pipeline will cross wetlands at the California Aqueduct and Fresno Slough. Fresno Slough has a recorded siting of GGS, approximately 5 miles from the location proposed for crossing. Construction near and under the California Aqueduct would be accomplished by “trenchless” (e.g., HDD or “jack and bore”) methods to avoid sensitive habitat, or as agreed upon in consultation with the USFWS, CDFG, and USACOE. Construction activities in these areas would be planned to minimize the size and extent of habitat disruption. Construction of the pipeline would cause both temporary and permanent impacts that are potentially significant. Impacts would be avoided, minimized, and reduced to an extent that would be considered less-than-significant.
2. Construction of the gas pipeline would cross two major waterways (California Aqueduct and Fresno Slough) and would potentially cause adverse impacts to habitat and water quality supporting biological resources. Wetland habitat would be avoided by using HDD construction to bore under sensitive resources. Except in the case of a boring failure, the important wetland resources of habitat and water quality would be unaffected by project construction. A boring failure under the California Aqueduct would not cause degradation to aquatic habitat, because the canal is concrete lined. Boring under Fresno Slough could be timed to occur when the slough is dry to minimize the potential that a boring failure would cause adverse impacts to aquatic resources. With implementation of trenchless construction, and implementation of seasonal constraints on construction, the potential impacts of the construction on the biological resources of any waterways will be less-than-significant.
3. Construction of the gas pipeline would cross many minor irrigation ditches and drainages that are not major rivers. Although small, some of these ditches have wetland features that could provide marginal habitat to certain biological resources. These biological resources can include aquatic, amphibian and terrestrial species. Most of these drainages receive flow from manmade sources, including irrigation supply, irrigation tailwater, and stormwater. Such water bodies are generally discontinuous and are often dry for 4-6 months per year (generally in early winter months). Impacts to biological resources from crossing small irrigation ditches and drains would be less-than-significant. The Applicant proposes to construct through these locations either by using trenchless methods, or by trenching through the drainage during the dry season when most significant biological resources are absent. The latter is permitted for jurisdictional wetlands under Nationwide Permit 12 issued by the USACOE, with conditions to reduce potential adverse impacts to wildlife and water quality. Wherever the gas pipeline crosses drainage ditches or other potential wetland features that could support significant biological resources, this will be accomplished by HDD, by open trench under authorization of NWP 12 or in a manner agreed to by the agencies and Applicant. Implementation of these measures would reduce potential impacts to biological resources to less-than-significant.
4. The pipeline will require pressure testing after construction to ensure welds are tight and to remove any accumulated dust or welding residue from the pipeline. To do this, the pipe is filled with water and pressurized, resulting in a potentially large volume of water. If disposed improperly this water could cause adverse effects on wetlands and water quality of receiving waters. The Applicant proposes to dispose pipe-testing water to an approved detention basin structure. A typical detention basin would consist of a basin constructed and lined with haybales and geomembrane. Water disposed into the top of the basin is filtered thoroughly through the bales before percolating into the ground. The method effectively prevents local erosion and significant sedimentation of surface waters. Disposal to such a detention basin, or to an alternate facility by agreement of CEC would ensure impacts of wastewater disposal are less-than-significant.

8.2.4.2.3 Conflict With Regional Habitat Conservation Plans

There is no countywide or regional Habitat Conservation Plan in Fresno County. The project region is within the area addressed by the Recovery Plan for Upland Species of the San Joaquin Valley (USFWS, 1998), but there are no preserves or limitations associated with this plan that are affected by the project. Therefore, construction of the project would not conflict with goals of any County Habitat Conservation Plan or other regional conservation plan. Therefore, no significant impact is expected.

8.2.4.3 Cumulative Impacts

The CVEC project would convert up to 85 acres of cotton fields to industrial uses. Because the site has already been zoned and planned for industrial uses, this conversion would occur with or without the project. Irrigated agricultural lands in Fresno County are not universally considered beneficial habitat for wildlife. Prior to approximately 1972, most of this part of the San Joaquin Valley was dry desert saltbush, and supported an abundant and diverse natural fauna. The implementation of widespread irrigation resulted in massive conversion of natural habitat for agriculture, and consequent loss of habitat for native species. With the conversion from saltbush to alfalfa, species such as Swainson's hawk that probably were not present in the natural condition are more common. Numerically, many more species have been "lost" than have become established in agricultural habitats. Widespread irrigation has also resulted in soil salination and drainage problems, to the extent that agricultural land is being retired from production, but now no longer supports the habitats necessary for the native species.

Agricultural production has also separated and fractionated the available natural habitat supporting special-status species, leaving only roadside edges, drainage sloughs and narrow fencelines as available corridors for movement and migration.

In this context, where agricultural habitat is of minimal value to native wildlife, the land proposed for development is already zoned to become industrial, and agricultural habitats are dominant in the landscape, the conversion of 85 acres of agricultural land with minimum habitat value, when considered in conjunction with other loss of wildlife habitat in this region, is considered less-than-significant with respect to biological resources.

The gas pipeline and water pipeline for the project were sited to minimize the potential impacts on sensitive biological habitats and would not cause significant adverse impacts to biological resources individually or cumulatively.

8.2.5 Proposed Mitigation and Monitoring

The following sections describe proposed mitigation intended to avoid, minimize or compensate for potential adverse effects of the project, and to monitor and document the effectiveness of mitigation.

8.2.5.1 General Project Construction

The following measures would be implemented in all CVEC construction areas:

- Provide worker environmental awareness training for all construction personnel that identifies the sensitive biological resources and measures required minimizing project impacts during construction and operation.
- Provide mitigation construction monitoring by a qualified Designated Biologist during construction activities near sensitive habitats.

- Prepare a BRMIMP (Biological Resources Mitigation and Monitoring Plan) that outlines how the Applicant would implement the mitigation measures developed to maintain any action authorized, funded, or carried out by state or federal lead agencies is not likely to jeopardize the continued existence of endangered or threatened species. The BRMIMP outline is presented in Appendix 8.2D.
- Avoid sensitive habitats and species during construction by developing construction exclusion zones and fencing around sensitive areas.
- Conduct additional preconstruction surveys for sensitive species in potential impact areas during the spring before construction begins, particularly within 250 feet of potential burrowing owl burrows.
- Prepare construction monitoring and compliance reports that analyze the effectiveness of the mitigation measures.
- All areas not required for permanent easements and development would be restored to preconstruction conditions, including topography, hydrology, topsoil, and, if appropriate, revegetation.

8.2.5.2 Special-Status Species

Special-status species are not likely to occur on the project site, or on the highly modified (agricultural) portions of the gas and water alignment. Instead, specific mitigation/protective measures were developed that focus on the potentially sensitive habitats surrounding the California Aqueduct, Fresno Slough, and James Bypass. These areas may support sensitive habitats potentially occupied by San Joaquin kit fox, blunt-nosed leopard lizards, various species of kangaroo rats, and aquatic animals. The following mitigation/protective measures that would be implemented in these sensitive areas.

8.2.5.2.1 California Aqueduct

1. Use trenchless construction methods in vicinity of California Aqueduct to avoid existing mesquite woodland and wetlands by 150-foot buffer.

8.2.5.2.2 Fresno Slough and James Bypass

1. Use trenchless construction methods in vicinity of Fresno Slough and James Bypass to avoid existing riparian vegetation and wetlands by 150-foot buffer; or
2. Construct pipeline crossing during dry season when water and dependent aquatic organisms are not present; or
3. Develop alternative construction and avoidance measure in consultation and agreement with CEC, USFWS, and CDFG.

8.2.5.2.3 Burrowing Owl

1. Conduct preconstruction surveys in the spring (before February 1) of construction areas to determine if habitat is occupied by burrowing owls.
2. Implement mitigation measures that protect burrowing owls by passive relocation and/or restriction of construction activities within 150 feet during non-breeding season or 250 feet of active burrowing owl nest burrows during breeding season (February 1 through August 31).

8.2.5.2.4 Foraging Raptors, Herons, Egrets, and Waterbirds

1. Design “raptor-friendly” electric transmission lines, as described in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996* (APLIC, 1996).

2. Provide safety lighting that points downward on the HRSG stacks to reduce avian collisions.

8.2.5.2.5 Gas Pipeline Construction

1. All project linears would be surveyed prior to construction to identify significant biological resources that require avoidance or protection.
2. Avoidance, protection and worker awareness training would be detailed in the project BRMIMP (see Appendix 8.2D).
3. Construction would be constrained within a designated construction corridor, generally 75 feet wide or less.
4. Any wetlands crossed by project linears would be avoided, or crossed in compliance with conditions specified by a Section 404 Permit or Streambed Alteration Agreement, as appropriate.
5. Temporary construction site would be restored to pre-existing contours and revegetated after construction.

8.2.6 Involved Agencies and Agency Contacts

Involved agencies and agency contacts are listed in Table 8.2-5.

8.2.7 Required Permits and Permit Schedule

Required permits and permit schedule are listed in Table 8.2-6.

8.2.8 References

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TABLE 8.2-1
Laws, Ordinances, Regulations, and Standards Applicable to CVEC Biological Resources

LORS	Purpose	Regulating Agency	Permit or Approval	Applicability (AFC Section Explaining Conformance)
Federal				
Endangered Species Act of 1973 and implementing regulations, Title 16 United States Code (USC) §1531 et seq. (16 USC 1531 et seq.), Title 50 Code of Federal Regulations (CFR) §17.1 et seq. (50 CFR 17.1 et seq.)	Designates and protects federally threatened and endangered plants and animals and their critical habitat.	USFWS and NMFS	Issues, Biological Opinion, or Authorization with Conditions after review of project impacts	Applicant has sited facility to avoid habitat for endangered species. There are not endangered species or critical habitats in the project area. (Section 8.2.4.2)
Section 404 of Clean Water Act of 1977	Requires permit to fill jurisdictional wetlands.	USACOE	Section 404 Permit	Applicant will avoid wetland fills by using HDD, or will open trench in compliance with Nationwide Permit (NWP) 12. (Section 8.2.4.2)
Section 401 of Clean Water Act of 1977	Requires the Applicant to conduct water quality impact analysis for the project when using 404 permits and for discharges to waterways.	RWQCB	Water Quality Certification	Applicant will obtain 401 Certification if required. (Section 8.2.4.2)
Suggested Guidelines for Raptor Protection (APLIC, 1996)	Describes design measures to avoid and reduce impacts to raptors from electrical transmission and other facilities.	CEC	CEC Conditions of Approval	Applicant will implement design measures to protect raptors from collision and electrocution. (Section 8.2.4.2)
Migratory Bird Treaty Act 16 USC §§703-711	Prohibits the non-permitted take of migratory birds.	USFWS and CDFG	CEC Conditions	Applicant will avoid take. (Section 8.2.4.2)
State				
California Endangered Species Act of 1984, Fish and Game Code, §2050 through §2098	Protects California's endangered and threatened species.	CDFG	Comments as cooperating agency on Section 7 or Issues 2081 incidental take permit for state-listed species.	No state-listed species will be "taken" as a result of the project. (Section 8.2.4.2)
Title 14, California Code of Regulations (CCR) §§670.2 and 670.5	Lists plants and animals of California declared to be threatened or endangered.	CDFG	N/A	

TABLE 8.2-1

Laws, Ordinances, Regulations, and Standards Applicable to CVEC Biological Resources

LORS	Purpose	Regulating Agency	Permit or Approval	Applicability (AFC Section Explaining Conformance)
Fish and Game Code Fully Protected Species §3511: Fully Protected birds §4700: Fully Protected mammals §5050: Fully Protected reptiles and amphibians §5515: Fully Protected fishes	Prohibits the taking of listed plants and animals that are Fully Protected in California.	CDFG	N/A	Applicant will avoid take. (Section 8.2.3.2)
Fish and Game Code §1930, Significant Natural Areas (SNA)	Designates certain areas such as refuges, natural sloughs, riparian areas, and vernal pools as significant wildlife habitats. Listed in the CNDDDB.	CDFG		Applicant will avoid SNA.
Fish and Game Code §1580, Designated Ecological Reserves	The CDFG commission designates land and water areas as significant wildlife habitats to be preserved in natural condition for the general public to observe and study.	CDFG		Applicant will avoid DER.
Fish and Game Code §1600, Streambed Alteration Agreement (SAA)	Reviews projects for impacts to waterways, including impacts to vegetation and wildlife from sediment, diversions, and other disturbances.	CDFG	Issues conditions of the Streambed Alteration Agreement that reduces and minimizes effects on vegetation and wildlife	Applicant will apply for SAA to alter tributaries of Fresno Slough and James Bypass if required to do so by CDFG. (Section 8.2.4.2)
Native Plant Protection Act of 1977, Fish and Game Code, §1900 et seq.	Designates state rare and endangered plants and provides specific protection measures for identified populations.	CDFG	Reviews mitigation options if there will be significant project effects on threatened or endangered plant species	No rare or endangered plants on project site. (Section 8.2.3.2)

TABLE 8.2-1

Laws, Ordinances, Regulations, and Standards Applicable to CVEC Biological Resources

LORS	Purpose	Regulating Agency	Permit or Approval	Applicability (AFC Section Explaining Conformance)
Public Resource Code §§25500 & 25527	Siting of facilities in certain areas of critical concern for biological resources, such as ecological preserves, wildlife refuges, estuaries, and unique or irreplaceable wildlife habitats of scientific or educational value, is prohibited, or when none alternative, strict criteria is applied.	USFWS CDFG	Issues Biological Opinion or Authorization with Conditions after review of project impacts	No areas of critical biological concern in area. (Section 8.2.4.2)
Title 20 CCR §§1702 (q) and (v); and	Protects “areas of critical concern” and “species of special concern” identified by local, state, or federal resource agencies within the project area, including the California Native Plant Society (CNPS).	USFWS CDFG	Issues Biological Opinion or Authorization with Conditions after review of project impacts.	No areas of critical concern in area. (Section 8.2.4.2)
Title 14 CCR Section 15000 et seq.	Describes the types and extent of information required to evaluate the effects of a proposed project on biological resources of a project site.	USFWS CDFG	Review and comment on AFC.	AFC will provide this information. (Section 8.2.4.2)

TABLE 8.2-2
Applicable Conservation Policies

Element	Goal/Policy	Conformance
Fresno County General Plan		
	OS-D.1 The County shall support the “no-net-loss” wetlands policies of the USACOE, USFWS, and CDFG. Coordination with these agencies at all levels of project review shall continue to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed.	Project would result in no loss of wetlands.
	OS-D2 The County shall require new development to fully mitigate wetland loss for function and value in regulated wetlands to achieve “no-net-loss” through any combination of avoidance, minimization, or compensation. The County shall support mitigation banking programs that provide the opportunity to mitigate impacts to rare, threatened, and endangered species and/or the habitat which supports these species in wetland and riparian areas.	The project will cause no wetland losses.
	OS-D.3 The County shall require development to be designed in such a manner that pollutants and siltation do not significantly degrade the area, value, or function of wetlands. The County shall require new developments to implement the use of Best Management Practices (BMPs) to aid in this effort.	Project will develop a stormwater pollution prevention plan to control off-site runoff water quality.
	OS-D.4 The County shall require riparian protection zones around natural watercourses and shall recognize that these areas provide highly valuable wildlife habitat. Riparian protection zones shall include the bed and bank of both low- and high-flow channels and associated riparian vegetation, the band of riparian vegetation outside the high-flow channel, and buffers of 100 feet in width as measured from the top of the bank of unvegetated channels and 50 feet in width as measured from the outer edge of the dripline of riparian vegetation.	Project will maintain 150-foot buffers around riparian vegetation.

TABLE 8.2-2
Applicable Conservation Policies

Element	Goal/Policy	Conformance
	OS-D.5 The County shall strive to identify and conserve remaining upland habitat areas adjacent to wetland and riparian areas that are critical to the feeding, hibernation, or nesting of wildlife species associated with these wetland and riparian areas.	Project will not affect valuable upland habitat adjacent to wetlands and riparian areas.
	OS-D.6 The County shall require new private or public developments to preserve and enhance existing native riparian habitat unless public safety concerns require removal of habitat for flood control or other purposes. In cases where new private or public development results in modification or destruction of riparian habitat for purposes of flood control, the developers shall be responsible for creating new riparian habitats within or near the project area. Adjacency to the project area shall be defined as being within the same watershed sub-basin as the project site. Compensation shall be at a ratio of three (3) acres of new habitat for every one (1) acre destroyed.	Project will avoid adverse impacts to native riparian habitat by using trenchless construction.
	OS-E To help protect, restore, and enhance habitats in Fresno County that support fish and wildlife species so that populations are maintained at viable levels.	Project will protect habitats that support fish and wildlife species.
	OS-E.1 The County shall support efforts to avoid the “net” loss of important wildlife habitat where practicable. In cases where habitat loss cannot be avoided, the County shall impose adequate mitigation for the loss of wildlife habitat that is critical to supporting special-status species and/or other valuable or unique wildlife resources. Mitigation shall be at sufficient ratios to replace the function, and value of the habitat that was removed or degraded. Mitigation may be achieved through any combination of creation, restoration, conservation easements, and/or mitigation banking. Conservation easements should include provisions for maintenance and management in perpetuity. The County shall recommend coordination with the USFWS and the CDFG to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed. Important habitat and habitat components include nesting, breeding, and foraging areas, important spawning grounds, migratory routes, migratory stopover areas, oak woodlands, vernal pools, wildlife movement corridors, and other unique wildlife habitats (e.g., alkali scrub) critical to protecting and sustaining wildlife populations.	No habitat critical to supporting special-status species would be lost as a result of this project.

TABLE 8.2-2
Applicable Conservation Policies

Element	Goal/Policy	Conformance
	OS-E.2 The County shall require adequate buffer zones between construction activities and significant wildlife resources, including both onsite habitats that are purposely avoided and significant habitats that are adjacent to the project site, in order to avoid the degradation and disruption of critical life cycle activities such as breeding and feeding. The width of the buffer zone should vary depending on the location, species, etc. A final determination shall be made based on informal consultation with the USFWS and/or CDFG.	Project will maintain buffers between project features and important riparian habitat.
	OS-E.3 The County shall require development in areas known to have particular value for wildlife to be carefully planned and, where possible, located so that the value of the habitat for wildlife is maintained.	Area proposed for development is zoned for industrial development and does not support significant value for wildlife.
	OS-E.4 The County shall encourage private landowners to adopt sound wildlife habitat management practices, as recommended by the CDFG and USFWS.	Applicant will implement sound wildlife management practices to the extent feasible.
	OS-E.5 The County shall support preservation of habitats of rare, threatened, endangered, and/or other special-status species including fisheries. The County shall consider developing a formal Habitat Conservation Plan (HCP) in consultation with federal and state agencies, as well as other resource conservation organizations. Such a plan should provide a mechanism for the acquisition and management of lands that support special-status species.	Project site and linears are not located in sensitive habitat or areas subject to an HCP.
	OS-E.6 The County shall ensure the conservation of large, continuous expanses of native vegetation to provide suitable habitat for maintaining abundant and diverse wildlife populations, as long as this preservation does not threaten the economic wellbeing of the county.	The Applicant's proposal is consistent in that it develops a parcel zoned for industrial development, and is located adjacent to existing development.
	OS-E.9 Prior to approval of discretionary development permits, the County shall require, as part of any required environmental review process, a biological resources evaluation of the project site by a qualified biologist. The evaluation shall be based upon field reconnaissance performed at the appropriate time of year to determine the presence or absence of significant resources and/or special-status plants or animals. Such evaluation will consider the potential for significant impact on these resources and will either identify feasible mitigation measures or indicate why mitigation is not feasible.	The Applicant has prepared a biological resources evaluation of the project.

TABLE 8.2-2
Applicable Conservation Policies

Element	Goal/Policy	Conformance
	OS-E.11 The County shall protect significant aquatic habitats against excessive water withdrawals that could endanger special-status fish and wildlife or would interrupt normal migratory patterns.	The project would be consistent in that it uses reclaimed water.
	OS-E.12 The County shall ensure the protection of fish and wildlife habitats from environmentally degrading effluents originating from mining and construction activities that are adjacent to aquatic habitats.	The project would implement BMPs as part of a SWPPP to avoid any environmentally degrading effluents.
	OS-E.13 The County should protect to the maximum extent practicable wetlands, riparian habitat, and meadows since they are recognized as essential habitats for birds and wildlife.	The project would avoid wetland and riparian habitat, primarily by using trenchless construction methods.
	OS-E.17 Areas that have unusually high value for fish and wildlife propagation should be preserved in a natural state to the maximum possible extent.	The project would be consistent by siting the facility on land that has already been developed for intensive agriculture and is now zoned for industrial uses.
	OS-E.18 The County should preserve, to the maximum possible extent, areas defined as habitats for rare or endangered animal and plant species in a natural state consistent with state and federal endangered species laws.	There are no defined habitats for rare or endangered animal and plant species on the project site.
	OS-F.2 The County shall require developers to use native and compatible non-native plant species, especially drought-resistant species, to the extent possible, in fulfilling landscaping requirements imposed as conditions for discretionary permit approval or for project mitigation.	The project will consider using natural vegetation in all landscaping.
	OS-F.7 The County should encourage landowners to maintain natural vegetation or plant suitable vegetation along fence lines, drainage and irrigation ditches and on unused or marginal land for the benefit of wildlife.	The project will consider using natural vegetation in all landscaping.

Source: Fresno County General Plan (2000).

TABLE 8.2-3
Special-Status Species Potentially Occurring in CVEC Project Area

Common Name	Scientific Name ^a	Status ^b (Fed/CA)	Season ^c	Primary Habitat ^d	Observed ^e	Comments
Plants						
Heartscale	<i>Atriplex cordulata</i>	--/1B	May-Oct	Alkaline flats and scalds in the CV, sandy soils	U	Low potential for occurrence on site due to habitat conversion. Potentially could occur in natural habitat outcrops on linears.
Brittlescale	<i>Atriplex depressa</i>	--/1B	May-Oct	Chenopod scrub, meadows, playas, valley and foothill grasslands, vernal pools, alkaline/clay	U	Site is highly modified for agricultural uses. Very low potential for occurrence on site. Potentially could occur in natural habitat outcrops on linears.
Lesser Saltscale	<i>Atriplex minuscula</i>	--/1B	May-Oct	Chenopod scrub, playas, valley, and foothill grassland	U	Site is highly modified for agricultural uses. Very low potential for occurrence on site. Potentially could occur in natural habitat outcrops on linears.
Palmate-Bracted Bird's-Beak	<i>Cordylanthus palmatus</i>	E/E	May-Oct	Chenopod scrub, valley and foothill grassland/alkaline	U	Site is highly modified for agricultural uses. Very low potential for occurrence on site. Potentially could occur in natural habitat outcrops on linears.
Recurved Larkspur	<i>Delphinium recurvatum</i>	--/1B	Mar-May	Alkaline soils, often in valley saltbrush or valley chenopod scrub, cismontane woodland, or valley and foothill grassland	U	Site is highly modified for agricultural uses. Very low potential for occurrence on site. Potentially could occur in natural habitat outcrops on linears.
Munz' Tidy-Tips	<i>Layia Munzii</i>	--/1B	Mar-Apr	Chenopod scrub, valley and foothill grassland; hillsides, in white-grey alkaline clay soils, with grasses and chenopod scrub	U	Site is highly modified for agricultural uses. Very low potential for occurrence on site. Potentially could occur in natural habitat outcrops on linears.

TABLE 8.2-3
Special-Status Species Potentially Occurring in CVEC Project Area

Common Name	Scientific Name ^a	Status ^b (Fed/CA)	Season ^c	Primary Habitat ^d	Observed ^e	Comments
San Joaquin Woollythreads	<i>Monolopia Congdonii</i>	E/1B	Mar-May	Chenopod scrub and valley and foothill grassland	U	Site is highly modified for agricultural uses. Very low potential for occurrence on site. Potentially could occur in natural habitat outcrops on linears.
Insects and Crustacea						
Ciervo Aegialian Scarab Beetle	<i>Aegialia concinna</i>	--/--	Resident	Sandy substrates	U	Inhabits sites containing sandy substrates Known from the natural hills and dunes west of I-5. Project site is highly developed and unlikely to support this species.
San Joaquin Dune Beetle	<i>Coelus gracilis</i>	--/--	Resident	Fossil dunes along the western edge of San Joaquin Valley	U	Inhabits sites containing sandy substrates Known from the natural hills and dunes west of I-5. Project site is highly developed and unlikely to support this species.
Mammals						
Fresno Kangaroo Rat	<i>Dipodomys nitratoides exilis</i>	E/E	Resident	Burrows are usually found in light, sandy soils in raised area	U	Site is highly modified for agricultural uses. Species was formerly known from a site near Raisin City that has since been converted to intensive agriculture. No suitable habitat remains at site. Potentially could occur in natural habitat outcrops on linears.
Giant Kangaroo Rat	<i>Dipodomys ingens</i>	E/E	Resident	Need level terrain and sandy loam soils for burrowing	U	Known from natural habitat west of I-5, but most of habitat east of I-5 converted to intensive agriculture is unsuitable.

TABLE 8.2-3
Special-Status Species Potentially Occurring in CVEC Project Area

Common Name	Scientific Name ^a	Status ^b (Fed/CA)	Season ^c	Primary Habitat ^d	Observed ^e	Comments
San Joaquin Antelope Squirrel	<i>Ammospermophilus Nelsoni</i>	--/T	Resident	Dig burrows or use kangaroo rat burrows; need widely scattered shrubs, forbs and grasses in broken terrain with gullies and washes	U	All known localities in natural habitat southwest of I-5 and Manning. No remaining suitable habitat at project site due to intensive agriculture.
San Joaquin Kit Fox	<i>Vulpes macrotis mutica</i>	E/T	Resident	An open prairie and desert brush fox; breeds in large burrows	S	Historically species was known from throughout the region. Intensive agricultural development has greatly reduced habitat. No burrows or suitable cover observed on site. Unlikely to be present.
Reptiles and Amphibians						
Blunt-Nosed Leopard Lizard	<i>Gambelia sila</i>	E/E	Resident	Sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief; seeks cover in mammal burrows, under shrubs, or structures such as fence posts	S	Historically species was known from throughout the region. Intensive agricultural development has greatly reduced habitat. No burrows or suitable cover observed on site. Unlikely to be present on site.
California Horned Lizard	<i>Phrynosoma coronatum frontale</i>	--/SC	Resident	Lowlands along sandy washes with scattered low bushes; open areas for sunning, bushes for cover; patches of loose soil and burial, and abundant supply of ants and other insects	U	Project site is intensively developed for agriculture and therefore generally unsuitable.

TABLE 8.2-3
Special-Status Species Potentially Occurring in CVEC Project Area

Common Name	Scientific Name ^a	Status ^b (Fed/CA)	Season ^c	Primary Habitat ^d	Observed ^e	Comments
Giant Garter Snake	<i>Thamnophis gigas</i>	T/T	Resident	Freshwater marsh and low-gradient streams; adapted to drainage canals and irrigation ditches	S	Known from a locality in Fresno Slough in 1976. Irrigation ditches in project vicinity and crossed by project linears lack vegetation and thermal cover for suitable habitat. Unlikely to occur, but avoidance of wetlands will avoid impacts to this species.
Birds						
Burrowing Owl	<i>Athene cunicularia</i>	SC/SC	Primarily summer migrant	Nests in former squirrel burrows in short-grass prairie	S	Species is known from general region, but intensive agricultural development makes habitat difficult to occupy. Intensive rodent control program limits available burrow sites.
California Horned Lark	<i>Eremophila alpestris actia</i>	--/SC	Summer migrant	Nests in open grassland prairies	U	Site is highly modified for agricultural development. Unlikely to nest there. None observed during field surveys on July 27, 2001.
Mountain Plover	<i>Charadrius montanus</i>	SC/SC	Winter migrant	Harvested cropland – a bare, disked field on clay soil	S	Short vegetation, bare ground and flat topography. Prefer grazed areas and areas with burrowing rodents. Species has been observed foraging in fallow fields. Likely to occur in general project area, but agricultural fields are regionally abundant habitat.

TABLE 8.2-3

Special-Status Species Potentially Occurring in CVEC Project Area

Common Name	Scientific Name ^a	Status ^b (Fed/CA)	Season ^c	Primary Habitat ^d	Observed ^e	Comments
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Notes:

^a Scientific names are based on the following sources: AOU, 1983; Jennings, 1983; Zeiner *et al.*, 1990a-c.^b Status. Status of species relative to the Federal and California State Endangered Species Acts and Fish and Game Code:

Fed	Federal status.
E	Federally listed as endangered.
T	Federally listed as threatened.
PE	Proposed endangered.
PT	Proposed threatened.
C	Candidate for listing as federal threatened or endangered threatened. Proposed rules have not yet been issued because they have been precluded at present by other listing activity.
SC	Species of Special Concern threatened. Proposed rules have not yet been issued because they have been precluded at present by other listing activity.
CA	California status.
E	Species whose continued existence in California is jeopardized.
T	Species that although not presently threatened in California with extinction are likely to become endangered in the foreseeable future.
SC	California Department of Fish and Game "Species of Special Concern." Species with declining populations in California.
FP	Fully protected against take pursuant to the Fish and Game Code Section 3503.5.
--	No California or federal status.
CNPS	California Native Plant Society Listing (does not apply to wildlife species).
IB	Plants, rare, threatened or endangered in California and elsewhere and are rare throughout their range. According to CNPS, all of the plants constituting List 1B meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection) of the California Department of Fish and Game Code and are eligible for state listing.

^c Season. Blooming period for plants. Season of use for animals. RES = Resident; SUMR = Summer; WNTR = Winter.^d Primary Habitat. Most likely habitat association.^e Present on site:

O	Observed onsite.
R	Recorded onsite.
S	Suitable habitat onsite.
U	Unsuitable habitat onsite.

SOURCE: California Dept. of Fish and Game, California Natural Diversity Database, 2001; California Native Plant Society, Inventory of Rare and Endangered Vascular Plants of California, Feb. 1994.

TABLE 8.2-4
Summary of Permanent and Temporary CVEC Project Impacts on Biological Resources During Construction

Location	Project Work	Construction Zone Size	Time Requirements	Habitat Type	Sensitive Biological Resources	Impacts	
						Temporary	Permanent
Power plant site	Grading for footprint construction	55 acres	Start summer of 2002	Intensively farmed cotton field	None	None; all of site would be converted from habitat	Potential loss of 85 acres of cotton field; habitat is marginally suitable for foraging birds and mammals
Access road	Grading and pavement for road	None in addition to power plant construction area	Summer 2002	Intensively farmed cotton field	None	None	None in addition to above
Stormwater detention pond	Grade berms into place surrounding detention pond	Less than 10 acres, within 80 acres shown above	Summer 2002	Intensively farmed cotton field	None	None	None in addition to above
Construction laydown area, west of project site	Construct compacted gravel pad	20 acres, within 80 acres	Summer 2002	Intensively farmed cotton field	None	None	None in addition to above
Natural gas pipeline from Panoche Junction to project site	Gas pipeline open trench and selected HDD or jack and bore	21 miles of trench; 75 feet of construction right-of-way; 25 feet of permanent easement	Summer 2002	Intensively farmed cotton, melon, grape, hay, and alfalfa fields along existing roads	Swainson's hawk, burrowing owl, giant garter snake, wetlands, Fresno Slough	Disturbance of 191 acres of agricultural habitat; disturbance of 0.3 acres potential wetland habitat	Loss of 3 acres of agricultural fields for permanent easement
Water supply line	Pipeline trench	20.5 miles of pipeline trench; 75 feet of construction right-of-way; no permanent corridor	Summer 2002	Intensively farmed cotton, melon, grapes, hay, and alfalfa fields along existing roads	San Joaquin kit fox, Swainson's hawk	Disturbance of 190 acres of agricultural habitat	None; pipeline area would be restored to preconstruction conditions
Transmission towers	Transmission tower footings, construction and maintenance	2,600 feet long, from CVEC to Helm substation; construction corridor 100 feet wide by 2,600 feet long; permanent easement 25 feet wide	Summer 2003	Cotton and corn fields	None	Disturbance of 6 acres of cotton and corn fields	Conversion of 1 acre for transmission tower footings

TABLE 8.2-5
Contacts for the CVEC Project

Biological Resource Agency	Person Contacted	Issue	Phone
U.S. Fish and Wildlife Service	Dan Buford Nancy Pau	Federal threatened or endangered species	916-414-6600
California Department of Fish and Game	Donna Daniels Dr. Andrew Gordus	California threatened or endangered species	559-243-4014
California Department of Fish and Game	Dr. Andrew Gordus	Streambed Alteration Agreement	559-243-4014
U.S. Army Corps of Engineers	Matt Herkala	Waters of the U.S. and wetland impacts	916-557-7724

TABLE 8.2-6
Required Permits and Schedule

Permit/Authorization	What Is Required to Complete Consultations	Date Application Submitted
Biological Opinion pursuant to Section 7 of the ESA, issued by USFWS Letter of Concurrence, from CDFG	CVEC had held pre-application meetings on 10/1/01 with USFWS to scope a Biological Assessment for kit fox.	November 2001
CDFG Streambed Alteration Agreement potentially required for pipeline construction across irrigation canals	Gas pipeline and water line cross Fresno Slough, James Bypass, and irrigation canals that may be interpreted to have "bed and banks" and require permit from CDFG. Consult with CDFG, and if needed prepare application that clearly identifies areas of impact and measures to protect vegetation and wildlife downstream of construction.	April 2002
Clean Water Act Section 404 Permit potentially required for gas pipeline crossing of irrigation ditches	If construction affects jurisdictional wetlands, implement pre-notification and construction in compliance with Nationwide Section 404 authorization.	April 2002
Water Quality Certification	Prepare application that describes monitoring plan for water quality of stormwater discharge, requires completed endangered species consultations and CDFG Streambed Alteration Agreement.	April 2002





